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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/821,358

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Sheng-Shiou Yeh

1201

25859

7590

12/22/2005

WEI TE CHUNG

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EXAMINER

CHIEN, LUCY P

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/821,358	<b>Applicant(s)</b> YEH ET AL.	
	<b>Examiner</b> Lucy P. Chien	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 14-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claim 14-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claim 18,19** are rejected under 35 U.S.C. 102(e) as being anticipated by Takizawa (US 6740457).

#### **Regarding Claim 18,**

Takizawa discloses (Figure 7) preparing a transparent substrate (611); forming a black matrix (612b) having a plurality of apertures on the substrate, coating a color resin layer (613r,613g, 613b) on the transparent substrate (611) and the black matrix (612b), wherein the color resin layer comprises RGB (613r,613g, 613b) resins, the RGB resins respectively fill each three contiguous apertures, and each of the RGB resins comprises joint portions jointing adjacent resins, and the joint portions are lapped one over the other above corresponding portions of the black matrix, and the RGB resins cooperatively form a continuous, flat surface opposite to the transparent substrate;

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forming an ITO (Indium Tin Oxide) layer (615) on the color resin layer (613r, 613g, 613b); providing an electrode (622) substrate having a TFT (thin film transistor layer) (Column 14 rows 5-10, does not state where the TFT is but it is known to the art to have a TFT formed there) formed on an inner surface thereof; and forming a cavity (630) between the ITO layer and the TFT layer and filling a liquid crystal layer (630) in the cavity.

Regarding Claim 19,

Takizawa discloses (Figure 7) one of the Joint portions of each of the RGB resins is lapped above a whole surface of the corresponding portion of the black matrix. A reflective light-shielding layer which is considered as a black matrix (212B) with apertures, red (213r) and blue (213b) resin layers that completely cover the light shielding layers (212B) and blue and green resin layers (213b and 213g) that are stacked above the light shielding layers (212B). Thus, at least one color totally covers the light shielding layers.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 14, 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (admission) in view of Fukuyoshi (US 4853296).

Regarding Claim 14,

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Admission discloses in Figure 5 a transparent substrate (2) forming a black matrix (9) having a plurality of apertures on the substrate, the black matrix comprising an antireflection layer (3,4) formed on the transparent substrate (2) and a light-shielding layer (5) formed on the antireflection layer (3,4), and coating a color resin layer (R,G,B) on the transparent substrate (2) and the black matrix (9), wherein the color resin layers comprises RGB (red, green, blue) resins, the color resin layers respectively fill each three contiguous apertures,

Admission lacks or does not expressly disclose adjoining RGB's and the joint portions are lapped one over the other above corresponding portions of the black matrix.

Fukuyoshi discloses (Figure 3) adjoining RGB (15) resins at two adjacent apertures cover the black matrix (10) and shown in (Figure 11) the joint portions are lapped one over the other above corresponding portions of the black matrix.

It would have been obvious to one of ordinary skill in the art, at the time of the invention to have the admission display device to include Fukuyoshi's adjoining RGB and the joint portions are lapped one over the other above corresponding portions of the black matrix to reduce the thickness of the displays (Column 1, 17-25) and providing a high contrast ratio display (Column 4, Rows 55-58).

Regarding Claim 15.

In addition to the admission and Fukuyoshi as disclosed above, Fukuyoshi (Figure 3) further discloses the RGB resins cooperatively form a continuous, flat surface opposite to the transparent substrate.

**Claim 16,17** are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission and of Fukuyoshi (US 4853296) in view of Takizawa (US 6740457).

Regarding Claim 16.

The admission and Fukuyoshi do not disclose wherein at least one of the joint portions of each of the RGB resins is lapped above a whole surface of the corresponding portion of the black matrix.

Takizawa teaches and discloses a color filter substrate and associated method and shows in reference to Figure 1, reflective light-shielding layers which is considered as a black matrix (212B) with apertures, red (213r) and blue (213b) resin layers that completely cover the light shielding layers (212B) and blue and green resin layers (213b and 213g) that are stacked above the light shielding layers (212B). Thus, at least one color totally covers the light shielding layers.

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystal at the time the invention was made to modify the admission and Fukuyoshi in view of Takizawa to sufficiently shield light and to prevent degradation of visibility due to light reflected at the light-shielding layers (Column 9, Lines 48-64).

Regarding Claim 17.

In addition to the admission, Fukuyoshi and Takizawa as disclosed above, the admission discloses the antireflection layer comprising a first antireflection film (3) having a first index of refraction, and a second antireflection film (4) having a different second index of refraction

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**Claim 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over the Takizawa (US 6740457) in view of admission.

Takizawa does not disclose antireflection layers.

The admission discloses (Figure 5) the antireflection layer comprising a first antireflection film (3) having a first index of refraction, and a second antireflection film (4) having a different second index of refraction and coating a color resin layer (R,G,B) on the transparent substrate (2) and the black matrix (9). The black matrix 23 functions as a light-shielding mask, to improve the contrast ratio of an LCD device using the color filter 20. ([0007]).

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystal at the time the invention was made to modify Takizawa to include the admission motivated by the desire to improve the contrast ratio of an LCD device using the color filter 20. ([0007]).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy P. Chien whose telephone number is 571-272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucy Chien  
Examiner  
Art Unit 2871  
LC

  
ANDREW SCHECHTER  
PRIMARY EXAMINER